

### **REMARKS/ARGUMENTS**

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of the application in view of the foregoing amendment and the following remarks. The Applicant originally submitted Claims 1-20 in the application. The Applicant previously canceled Claims 1-10. The Applicant has amended Claim 11 herein and has not added any claims. Accordingly, Claims 11-20 are currently pending in the application.

#### **I. Rejection of Claim 14 under 35 U.S.C. §112**

The Examiner rejected Claim 14 under 35 U.S.C. §112, first paragraph. The Examiner states that Claim 14 "... contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." (Office Action - Page 2, para 2). The Examiner states again that the specification does not disclose in a way so as to understand what is meant that "time slots" are not adjacent and that the specification does not disclose non-adjacent "time slots."

The Applicant respectfully submits that a person of ordinary skill in the pertinent art understands and will recognize adjacent and non-adjacent time slots. Logically, if a person of ordinary skill in the pertinent art is addressing a signal that involves "adjacent" time slots, he or she would understand what a "non-adjacent" time slot is and would recognize a non-adjacent time slot when presented. The Applicant respectfully requests the Examiner to withdraw the objection to Claim 14.

## **II. Rejection of Claims 11-20 under 35 U.S.C. §103**

The Examiner has rejected Claims 11-13, 16 and 17 under 35 U.S.C. §103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of U.S. Patent No. 5,926,301 to Hirt. Claim 18 has been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Hirt, in further view of U.S. Patent No. 4,677,656 to Burke, *et al* (Burke). Claim 14 has been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Hirt, in further view of U.S. Patent No. 3,742,498 to Dunn. Claim 15 has been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Hirt, in further view of U.S. Patent No. 6,064,662 to Gitlin, *et al* (Gitlin). Claims 19 and 20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Hirt, in further in view of Burke and in further view of Gitlin.

As the Examiner is no doubt aware, determination of obviousness requires consideration of the invention considered as a whole; the inquiry is not whether each element exists in the prior art, but whether the prior art made obvious the invention as a whole. Furthermore, there must be some suggestion or teaching in the art that would motivate one of ordinary skill in the art to arrive at the claimed invention; a reference that teaches away from a claimed invention strongly indicates nonobviousness.

Moreover, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

The common reference in the rejection of Claims 11-20 is Hirt. Hirt does not, in combination with the AAPA, suggest or teach the present invention. Hirt describes a wireless communication system that is, for all intents and purposes, a pulse position modulation system. Hirt describes a method of overlaying frequency shift keying on a pulse position modulation system so as to provide the robustness of a pulse position system with the data carrying capacity of a frequency shift keying system in an infrared environment. Hirt describes the addition of frequency to pulses in order to make the pulse positions more readily ascertainable when decoded in an IR environment. Hirt does not suggest or teach that a single pulse can be divided into time slots with each slot having its own a unique phase and time position and that a pulse can be used to encode data by said phase and time position. Hirt essentially teaches pulse position modulation where multiple pulses are transmitted and the pulse positions ascertained because the optical intensity has been increased by the addition of frequency shift keying to shape the multiple pulses within each the respective position of each pulse. (Col. 4, lines 45-67; Col. 5, lines 1-35). Thus, the AAPA combined with Hirt does not teach or suggest the present invention, nor is the present invention rendered obvious by the AAPA and Hirt.

The Examiner states that "...it is a matter of design choice to combine multiple modulation schemes and there is no criticality in combining PSK and PPM as described in the application." The Applicant submits that a person of ordinary skill in the art would only be able to encode data in the manner described and claimed in the present invention by reference to the teachings of the present

invention. The Applicant submits that the present invention does not describe a mere matter of design choice.

The Examiner avers that Hirt is relevant because, "... FSK and PSK are related since a specified change in the frequency is analogous to a corresponding change in phase." Is the Examiner stating that FSK and PSK are the same thing? It is clear that such is not the case and that Hirt does not describe phase shift keying nor any aspect of PSK. The Applicant respectfully submits that Hirt is not relevant to the instant application. The AAPA and Hirt do not, individually or in combination, teach or suggest a period of time spanned by a pulse, said period of time spanned by a pulse that is divided into time slots where each of the time slots has its own unique phase and time position and each pulse encodes data by such unique phase and time position. Neither Burke, Dunn and Gitlin, the remaining references cited by the Examiner, overcome the shortcomings of Hirt. In view of the fact that the cited references do not support the Examiner's rejection of Claims 11-20 under 35 U.S.C. §103(a), the Applicant respectfully requests the Examiner to allow Claims 11-20.

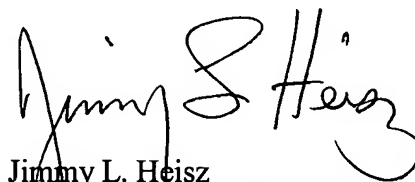
### III. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 11-20.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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Dated: April 5, 2005

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